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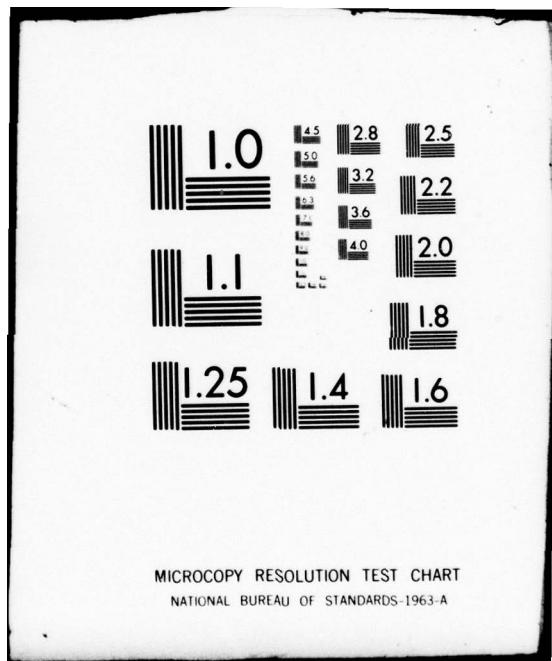
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# NATIONAL PERSPECTIVES ON CIVIL DEFENSE: 1978

--CREDIBILITY AND ACCEPTANCE--



BY

JIRI NEHNEVAJSA

CONTRACT: DCPA01-78-C-0218  
WORK UNIT: 4815-B

FOR

DEFENSE CIVIL PREPAREDNESS AGENCY  
WASHINGTON, D.C. 20301

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This report has been reviewed in the Defense Civil Preparedness Agency and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Defense Civil Preparedness Agency.

University of Pittsburgh  
University Center for Social and Urban Research

January, 1979

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of Atlanta, Georgia was responsible for the fieldwork.

The study defines credibility problems along four dimensions: credibility of threat, credibility of response (response effectiveness), credibility that the response (CRP) would be actually put to use (use credibility), and spin-off credibility (the potential payoff of such programs as CRP for other emergencies or activities).

We find that threat credibility is fairly high in that many Americans think that a nuclear war might be likely in some future, that their area would be a target or exposed to significant fallout, and that other nuclear threats (nuclear power plant accident, terrorist takeover of a facility, terrorist acquisition of a nuclear device) are also not negligible.

We find that civil defense programs are seen as rather effective in that survivability estimates are just about twice as high for a protected population than they are essentially under the "existing system" (if war were to occur "next week"). In this regard, blast shelters are seen to perform best, fallout shelters next best, and evacuation alternatives well enough, but worse than either blast or fallout facilities.

The study shows high expectations to comply with a Presidentially ordered, or urged, evacuation, and very high expectations of helpfulness on the part of the possible host areas of the nation.

The key problem, in turn, has to do with time availability: many people feel that there would not be enough time to be warned about an impending threat, and not enough time to evacuate.

By far most Americans (use credibility) believe that there might indeed exist circumstances under which the President would order evacuation of risk areas. In the acceptance dimension, we find strong supportive attitudes toward civil defense measures as we did in previous national studies (1972, 1968, 1966, 1964, 1963). We find strong support for relocation planning. Beyond this attitudinal acceptance dimension, the study points to positive results along the promissory acceptance axis.

By far most Americans are willing to share their basements with others, provide home for evacuees, desirous to help others, and willing to volunteer their services for civil defense efforts should they be needed and also acquire emergency-related know-how in the form of participation in appropriate training programs.

The data on participatory acceptance (actual actions) are limited in this inquiry. But we do find a fair reservoir of people with some prior emergency and disaster relevant training or experience, much of it acquired in the course of military service or, as in the case of first-aid know-how, through the Red Cross.

In sum, the research does not reveal serious credibility or acceptance problems insofar as we focus on the disposition of the nation's public.

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## PREFACE

This paper was originally produced for a briefing (January 16, 1979), by the author, of the Defense Civil Preparedness Agency of the Department of Defense.

It represents a recasting of the results of the 1978 national survey (of a probability sample of 1,620 Americans, 18 years of age and older, in the 48 contiguous states) in terms of two central dimensions bearing on problems of crisis relocation planning: thus it addresses problems of credibility on the one hand, and of acceptance on the other hand.

The author is in deep debt to the excellent research and support staff of the University Center for Social and Urban Research of the University of Pittsburgh for their unwavering help and assistance. Professor Vijai P. Singh, the Center's Director deserves a particular expression of thanks, as do Steven Manners, George Rogers and Toni Guzik. Not mentioning others by name does not diminish the author's appreciation.

Jiri Nehnevajsa

April 16, 1979

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## I. INTRODUCTION

Apart from the vexing questions about life saving potential, technical feasibility, leadtimes for planning as well as for effective activation of such plans, and systems costs, both developmental and operational, issues of credibility and acceptance are altogether central with respect to programs such as crisis relocation.

These strategic problems of credibility and acceptance have their crucial structural loci as they manifest themselves in credibility to, and acceptance by, the President, the Administration, the United States Congress, the Governors of the nation's states and their legislative bodies, the political leadership of the nation's counties and municipalities and, of course, the mass media through the descriptive and interpretive sieves of which the nation's body politic comes to grip with perspectives on the world beyond one's immediate experiencing.

In this context, problems of program credibility to the nation's public and program acceptance by the public acquire a critical meaning in their own right. For one, the dispositions of our people help to establish the major riverbeds which facilitate, in their political and social reverberations, the development and implementation of some programs while, in turn, constraining those programmatic thrusts which our people find either unneeded or unwanted or both.

But equally, if not more, important is the fact that programs like CRP depend on their eventual cost-effectiveness, and, indeed, cost-benefits, on the cooperation and compliance of the nation. They are, above all, people programs. To be sure, the life-saving potential of even the best possible effort cannot be realized except upon willing cooperation of the nation for whose presumed benefits the programs are designed and, when needed, implemented. These patterns of cooperation and compliance, in turn, have their basic roots in credibility and acceptance as well.

It is, of course, quite accurate to argue that the issues of credibility and acceptance are not the same in a crisis environment as they are in a period which may be classified as a "normalcy" one. Indeed, many things can be accomplished in a crisis which, in the absence of an emergency, appear to be impossible or exceptionally difficult to do.

But this does not vitiate the fact that programs which are crisis-oriented and crisis-activatable have to be, in general, developed as preparedness systems under the postulated conditions of normalcy except for those types of efforts or program components which can be, themselves, designed and implemented on a crash basis in the midst of a crisis.

Thus while we accept the premise that the nation's sentiments and actions undergo significant changes in a crisis setting, it is in a pre-crisis or noncrisis environment in which a great deal has to be done. Therefore, problems of credibility and acceptance of crisis-oriented systems loom particularly large, as potential facilitators or potential impediments, precisely in situations during which such programs need not be activated.

In this report, we limit ourselves to some of the major issues in credibility and acceptance of CRP to our people in late 1978 and thus, under what must be construed as relative normalcy conditions.

The data, of course, derive from our national study. Carried out between mid-September and mid-December of 1978, the survey includes a probability sample of 1620 Americans, 18 years of age and older, in the 48 contiguous states of the Union. On balance, each face-to-face interview, with the fieldwork carried out most ably by Marketing Information Service of Atlanta, Georgia, took some 71 minutes.

To say that we "limit ourselves" to certain findings means, in fact, that the data-base is quite rich and goes well beyond the more specific issues raised by concerns regarding CRP. Indeed, we have rich data bearing on in-place alternatives as well and on other relevant dimensions of civil defense problems including the sentiments which permit an interpretation of the relationships between some key arms control and disarmament measures and various potential programs of civil defense. We have data on exposure to natural disasters, as we have information about the likelihood of selected nuclear threats other than those which are directly associated with the risk of nuclear war.

Here, we shall emphasize the problems associated with CRP though we may occasionally contrast this particular programmatic thrust with some of the main alternatives. Furthermore, many questions in the 1978 survey were also used in previous national studies. This allows for comparability and an assessment of some of the key trends.

When we say that our report will be limited to some "major issues," we mean by that simply that we are dealing with a somewhat pre-analytic stage of the information. Hence, for the most part, we will be considering the aggregate information -- that is, the data for the sample as a whole rather than with respect to the appropriate refinements as to which population segments believe, or think what or why or how the various substantive items of the inquiry relate to each other.

This amounts to saying that our main findings are based here on aggregate, marginal, data for the population as a whole and that we shall mention some of the analytic refinements only occasionally and only in a preliminary manner.

Now for the sampling procedure used, and the sample size: in general with confidence of 95 percent the results lie, at worst, within about  $\pm$  3 percent of our findings. This really asserts that, if someone were betting, he or she might go as high as \$19 for each \$1 to bet that a census of all Americans 18 years of age and over in the 48 contiguous states would produce results not more than about 3 percent different from the findings which we highlight.

In another report, Issues of Civil Defense: Vintage 1978, we have presented the major findings of the 1978 study. Here, we recast the results in terms of problems of credibility on the one hand, and issues of acceptance (or acceptability) on the other hand.

## II. CREDIBILITY AND ACCEPTANCE

It might be useful to conceptualize credibility and acceptance with some degree of precision before we address the actual results of the 1978 survey.

Since the terms seem to be deployed in a somewhat haphazard and confusing, even interchangeable, manner, we have already attempted a preliminary reconceptualization in our paper on CRP; Credibility and Acceptance Problems in Rural America, prepared for a civil defense study of the Center for Planning and Research in August, 1978.

It is these preliminary dimensionalizations which will guide us here, although we are involved in further work to clarify the credibility and acceptance issues even more.

Credibility has to do with a belief that something sensible is being done about something that is considered a real problem. Thus the credibility of a particular program involves a conviction that it addresses a real problem and that it addresses it in a viable manner.

We think of credibility along four major axes. For one, it has to do with the credibility of a threat since this determines the extent to which a problem is perceived as real. This, in turn, concerns the likelihood of war, its imminence and the magnitude of its impact.

Second, a particular programmatic response to the threat, if real, raises questions regarding the effectiveness of the program. The central queries are: Can it work? And will it work?

Third, credibility of a program also involves an assessment of whether or not the program would be actually used or activated even if it were available, considered tolerably effective and pertained to a real threat.

Fourth, credibility of a program also may be seen in terms of its multiplier values. Thus any program may have spin-off effects which might, in part, render it useful with respect to problems other than those

which gave rise to the program. In CRP, such spin-off effects, of course, may have to do with nuclear disasters other than war, or with the facilitation of evacuation in face of other natural or man-made hazards.

Hence, we conceive of credibility as involving threat credibility, effectiveness credibility, utilizability and multiplier credibility.

The key empirical dimension which drives the credibility issue is one of likelihood and probability, the former a proxy when actual probabilities are impossible, or difficult, to determine. Thus the central problems revolve around the likelihood of threat, the likelihood that a program will, and can, achieve its objectives relative to the threat, the likelihood that the program would be utilizable in time of need, and the likelihood that it may have payoffs of some value beyond the program-specific objectives.

Acceptance, by contrast, is best seen in terms of favorable dispositions and in terms of supportive behavior.

We may define the dimensions of acceptance along three major lines.

For one, there is acceptance simply at the level of sentiments and attitudes. Second, there is acceptance which manifests itself in the way of promises to behave in certain ways, willingness to act, or intentions to act in ways supportive of a particular program, or adaptive to it. Third, there is acceptance as revealed by actual actions, or, if you wish, by participation in a program or by actual investments of effort to insure that a given program gets off the ground, or that it actually achieves its objectives.

Thus, in all, we may label these dimensions as those of attitudinal acceptance, promissory acceptance in that the willingness to act is a kind of promise which might be cashed in, and participatory acceptance.

If the credibility issue is empirically chiefly a problem of probability or likelihood, the acceptance issue is drive, above all, by favorableness and desirability.

Let us then present some of the main results of the 1978 survey along these specified dimensions of credibility and acceptance.

### III. THREAT CREDIBILITY

Let us now consider the threat of nuclear war, the blast and fallout threat to the residential locations of our people, and the threat of several other nuclear hazards.

#### A. The Threat of War

For one, we have an ambient measure. Secondly, we have a more specific index of nuclear war threat.

The ambient indicator has to do with perceptions of international tensions. The more specific index concerns the likelihood of war.

The traditional pattern regarding international ambience is one in which our people see the past as somewhat better than the present, but the future better than the present, or even the past.

In 1978, the results replicate a trajectory of the early 1960s rather than of the intervening period: current assessments of international tensions yield higher indices than the recall evaluations of the situation two years ago. But the future, at least over the remaining months of the decade, is not seen as a better one. Rather, the level of tensions is believed, by our people, to be on the rise though not dramatically so.

In this context, it is not surprising to find that our people also believe that the likelihood of war has increased. The probability index yields a value of .469 (with 58.6 percent of the respondents giving a major war 50-50 or higher chances), compared with .415 in 1972. This likelihood value is higher than it has been in the past 15 years.

Some 7.8 percent of the respondents were convinced that a nuclear war would simply never happen. In 1972, 13.1 percent were in this response category.

Furthermore, a Soviet-Chinese confrontation has a perceived likelihood of .473, and among those who consider such a conflict having

a probability of 50-50 or higher, an American involvement on this contingency has a probability of .608. Data from previous studies suggest that about 70 percent of those who feel that the United States would end up enmeshed in a Soviet-Chinese conflagration are convinced that we might turn out to be on the side of China. In 1978, we did not ask about the side America might take, or might have to take, but it does not seem unreasonable to suggest that the basic pattern of responses would not have changed as far as this issue is concerned.

Thus for the sample as a whole, a Soviet-Chinese war with U.S. involvement has a likelihood of about .257 as far as the assessments on the part of our people imply. Two key conclusions:

- (1) The threat of nuclear war is credible except for about 8 percent of our people who remain convinced that a confrontation of the postulated kind would simply never come about.
- (2) Throughout the 1970s, the perceived threat of war has increased, although not dramatically so.

Some 13.5 percent of the respondents thought that a nuclear war might happen within five years. In all, 39.7 percent placed it within a ten-year span.

The median timing turned out to be just about 10 years. We may draw three main conclusions on the basis of the results:

1. The threat of nuclear war, while seen as real, is not considered imminent.
2. This suggests a low sense of urgency regarding preparedness measures.
3. It also suggests that preparedness systems which may take a considerable period of time to develop, that is, preparedness options with a relatively long leadtime, would not be less credible simply because of the time horizon over which they are being put in place or planned.

As for the perceptions of threat magnitude, we have both an ambient and a more direct measure. The ambient index has to do with a comparison of Soviet and American military might. The more direct index concerns evaluations of survival prospects under current preparedness conditions.

The modal response, with regard to comparative Soviet strategic strength as well as in terms of overall Soviet defense capabilities, places the United States and the Soviets at parity as it did in 1972.

But the respondents who did not feel that the two nations were about equal in their strategic and defense capabilities believe the Soviets to be stronger than the United States. The percentages favor the Soviet Union by a factor of about 2. In general, this represents an increase in the perceptions of Soviet superiority when compared with the 1972 results.

Regarding civil defense systems, the modal response actual favors Soviet capabilities. 39.7 percent view the Soviets as stronger, 28.8 percent feel that the two superpowers are about equally strong in terms of civil defense, and only 10.1 percent were confident that American capabilities exceeded the Soviet ones.

There is a marked increase in perceptions of Soviet civil defense strength since the 1972 national survey. If we use an index from 0 to 1 so that .5 represents equality and numbers beyond .5 would indicate Soviet superiority and numbers below this mid-point would stand for greater American military might, we find that the 1978 value regarding strategic capabilities is .556 while it was .561 in 1972, the index for defensive capabilities is .555 while it was .529 in 1972, and the civil defense assessment measure is .634 while the corresponding measure was .542 in 1972. Thus,

1. The military balance of power is seen as tilted somewhat in favor of the Soviets, and the tilt is increasing.
2. Soviet civil defense capabilities are seen as particularly better than America's, indeed, significantly more so than the implied slight superiority in strategic systems and in overall defense capabilities.

To evaluate the perceptions of threat magnitudes more directly and especially under the conditions which now exist, we asked about survival if war should break out "next week."

In all, 12.5 percent of the sample thought that their survival chances were "very good" or "good." 29.3 percent considered their prospects as about 50-50, but 55.2 percent believed that their survivability potential would be either "bad" or "very bad."

This represents a shift since 1972 toward bad survival prospects, though not a dramatic one. A survivability index is .315 in 1978, while it was .344 in 1972.

In Candidate U.S. Civil Defense Programs, the System Planning Corporation (March, 1978, p. 26) estimates survival percentage of about 30 percent under current civil defense funding and in the absence of any CRP. The national survey implies a survival rate of 31.5 percent by the intuitive judgments of our people. In sum,

1. The balance of power is seen already slightly tilted in favor of the Soviet Union, especially as regards civil defense capabilities, and the Soviets are perceiving as inching increasingly toward military superiority.
2. The data imply survival rates of about 31.5 percent under current civil defense conditions, and thus 68.5 percent fatalities.
3. The threat, believed to be real though not imminent, is clearly one of major magnitude.

#### B. The Area Threat

We measured the perceptions of the respondents as to whether they live in an area which would be a likely target should war occur, or whether they would be impacted by fallout should their area not be, as they see it, targeted.

We also placed each respondent into a high risk or safer area on the basis of TR-82. In these terms, we find that 78.4 percent of the sampled Americans actually reside in high risk areas. Some 4 percent of them, however, straddle the boundaries between high risk and safer areas relative to TR-82, and we placed them among the high risk respondents.

Those who thought that they lived in an area which was in "some," "great" or "certain" danger of being a target amount to 76.7 percent of the respondents. This seems to be close to the 78.4 percent whom we placed into high risk zones in light of TR-82. But the result is misleading in this regard.

In the TR-82 high risk areas, 15.9 percent of the respondents thought that their area risk was low, and another 3.8 percent were unable, or unwilling, to estimate the risk. In the TR-82 lower risk areas, 38.3 percent believed to live in high risk places, another 25.4 percent considered the risk moderate, and another 4.6 percent did not answer the question.

Thus in higher risk areas, as many as 20 percent of the residents seem to underestimate the specific danger, while in lower risk areas, between 38 and 54 percent may be overestimating their particular hazard. The finding, even at this level of analysis, raises rather crucial questions regarding civil defense information and education and we merely point to the issue rather than seeking to resolve it here and at this time. The questions, to be sure, are not easy to answer. Asked for main reasons why their particular areas might be subject to an attack, the respondents cited various military installations (bases and airfields, 24.6 percent; missiles, Minutemen, 1.7 percent; ammunition depots, 2.7 percent) as often as they did the area's industries.

Other important reasons included the fact that these were simply "cities" (14.6 percent) and the respondents expected their area to be targetted because of the utility and power systems (13.4 percent) or due to the central role of the area in the transportation system (12.3 percent). Some 6.5 percent considered "people" to be the primary target. If, in turn, the area proved not to be a target, 83.5 percent of the respondents thought that they would be in "some," "great" or "certain" danger of fallout. The latter two categories, those who referred to a "great" or "certain" danger amounted to 48.3 percent of the sample.

Regarding the blast danger, the 1978 results represent an increase in risk perception compared with the 1972 results. Regarding fallout risk, the 1978 data are similar to the 1972 findings and, if anything, represent a slight shift toward lessened estimation of the risks of exposure to secondary weapons effects (if the area were, however, to escape from being a target).

To summarize,

1. The danger of both being a target and being exposed to fallout should the area be spared from a direct hit is seen as very high.

2. Using TR-82 as a convenient standard, however, we find that people in higher risk areas may often tend to underestimate the risk, while Americans in presumably safer areas tend to overestimate the danger.
3. These present special problems for the public information and education policies of civil defense organizations.

#### C. Other Nuclear Threats

Limited area evacuation, of course, is often induced in anticipation of an imminent threat of slower-evolving natural disasters, or in the immediate aftermath of an insult to facilitate rescue and relief operations and minimize further danger to disaster victims. Such evacuation also occurs in response to some key man-made threats, such as those resulting from spillages of toxics, or danger of such spillages or of explosions. Nuclear hazards, however, present a new and different problem. In the 1978 survey, we focussed on three such threats: for one, the danger of nuclear power plant accident of such magnitude that significant radiation would be released. It is the kind of accident which would involve core meltdown, breach of containment, significant release of radioactivity, appropriate climatic conditions and a sizeable population downwind. The Rasmussen report assigns a probability of about  $5 \times 10^{-9}$  to such an accident, and the probability would remain relatively low even were it 100 times higher, with hundreds of nuclear power plants across the map of the nation, and a time span of two decades or thereabouts. This basic conclusion remains unaltered despite the recent more cautious assessment of the validity of the WASH-1400 paper. Be it as it may, 32.2 percent of our respondents consider such an accident either "likely" or "very likely," and 56.6 percent, in all, imply chances of 50-50 or higher ones.

Second, we measured the perception of risk of some terrorist group taking over a nuclear power facility. While such dangers may be more likely in countries other than the United States, our people feel that such risks, indeed, exist. In all, 55.7 percent consider the danger as having a likelihood of 50-50 or higher, and 30.9 percent fall into the "likely" or "very likely" categories, the latter including 11.3 percent of the sample.

Third, we assessed the danger that some nonlegal or illegal entity might construct a nuclear device and threaten to use it unless their demands were met. The recent Princeton and M.I.T. student experiences show, indeed, that a low yield device would be rather easy and cheap to construct and make credible, and the amount of weapon grade uranium or plutonium which would be required is so small as to make a possible diversion hardly noticeable. In fact, 61.4 percent of the respondents considered the risk to be 50-50 or higher, with 37.0 percent in the higher likelihood brackets.

In terms of a likelihood index, the results say that our people consider a nuclear accident to have a probability of about .479, a takeover of a power facility of about .470, and the acquisition, and blackmail use, of a nuclear device by some terrorist group of about .512.

The time horizon relative to which the questions were asked stretches into 1985.

Now these expectations of nuclear threats other than war also correlate with expectations of a nuclear war and of a war between the Soviet Union and China in which, to repeat, the United States is believed likely to be embroiled. The correlations are substantively not exceptionally high, ranging between .2 and .3 (the highest ones being associated with the relation between nuclear war and terrorist possession, and use, of a nuclear device), but they are statistically highly significant and, at this zero-order of analysis, certainly not negligible in their implications.

They suggest, of course, something of a nuclear threat syndrome. Three points then need to be highlighted in the way of a conclusion:

1. The risk of nuclear hazards other than war is believed to be considerable between now and 1985.
2. Of these risks, the danger that some terrorist group might acquire a credible nuclear device and threaten to use it against an American city unless whatever demands were met is seen as greater than either the danger of a power plant accident or, in turn, a takeover of a nuclear power facility.
3. The nonwar nuclear risk perceptions are related to anticipated risk of nuclear war so that there exists a configuration of nuclear hazard expectations, a statistically impressive one and substantively one that cannot be easily disregarded.

#### **IV. EFFECTIVENESS CREDIBILITY**

The first major issue in effectiveness credibility addresses the problem of whether a program is expected to work. That is, whether it is expected to achieve its intended results and to what extent.

The second major issue pertains to those facilitators and constraints that can make or break a program in that they affect its workability effectiveness.

We translated the "Will it Work?" issue into two concerns: one having to do with program effectiveness in terms of its primary objectives, that is, life saving; the second one having to do with expectations that Americans would act adaptively, that is, they would comply with behavioral requirements implicit in a program or those necessary for its success.

We conceptualized the "Can it Work?" question along three lines. One, whether there would be available time in which to act, something we have referred to as actionable time. Two, whether Americans expect that others would be helpful to increase the chances that a program might attain its basic goals. Three, whether there are, in place, some resources which can, in a rather objectified manner, be construed as facilitators or, for that matter, constraints.

##### **A. Survivabilities**

To obtain some estimates of program workabilities in terms of survival, we asked about prospects for survival if people were in fallout shelters, if they were in blast shelters, and if appropriate areas of the nation were evacuated.

As a benchmark, of course, we can use the survival expectations under "current" conditions of preparedness.

	<u>50-50 or High Chances</u>	<u>Good or Very Good Chances</u>	<u>Survivability Index</u>
Benchmark: Next week's war	41.8	12.5	.315
Survival: In F/O shelters	78.3	44.3	.584
In blast shelters	78.7	48.8	.642
Upon relocation	75.8	34.0	.558

The findings are clear:

1. Preparedness systems other than the current one are believed to enhance survivability by a factor of about 1.8.
2. Blast protection is believed to contribute to survivability more than either full-scale fallout protection or, for that matter, crisis relocation.
3. Compared with the types of models which underlie the analysis by the System Planning Corporation, survival prospects for a fallout-sheltered population might be somewhat overestimated by our people, whereas survivabilities under blast protection or in crisis relocation, even upon retargetting against relocatees, tend to underestimate the analytically estimated effectiveness of such programs.
4. But the sharp increased survivabilities of each prototype system as contrasted with the benchmark measure clearly indicate that the programs are quite credible in effectiveness terms.
5. At the same time, none of the major options seem to be believed to push survival chances beyond some 60 percent of our people and at best about two-thirds of them.

#### B. Expected Compliance

The potential benefits, whatever those may be, of a preparedness program can be realized only if people act in an adaptive manner. With respect to credibility, we measure the extent to which our people believe that other Americans would do what is expected of them.

In turn, their own actions and intentions will be considered as a dimension of acceptance.

The story is simple enough:

1. In a Presidentially recommended, urged or ordered relocation situation, the respondents anticipate that 69.1 percent of Americans would comply by actually evacuating.
2. If critical workers were to relocate and then had to commute to maintain essential services in the evacuated areas, the average expectation of compliance on the part of such designated workers amounts to about 50 percent. Thus Americans tell us that about half of the possible essential workers would be likely to do what such a program might expect of them.

But the expected compliance with a Presidential directive also has to be considered in view of data bearing on spontaneous evacuation in the absence of a national directive. Our respondents estimated that as many as 47.8 percent of people from their areas, on the average, would be likely to evacuate spontaneously so that, in effect, a Presidential decision would increase the overall outflow by 21.3 percent.

This is, of course, somewhat misleading because even were spontaneous evacuation to reach such magnitudes, some of it would turn out to be mal-adaptive in that some people might move to another risk area, and still others might actually leave safer areas and end up in an area at higher risk. A Presidentially directed evacuation would assume crisis relocation plans and the dissemination, if only on a crash basis, of relevant information as to the distribution of risks so that some, if not all, of the maladaptive movement would be either avoided or rectified in the process.

If we are willing to stipulate, as we should, that expected adaptive behavior by Americans is a clue to program credibility in that non-credible programs would not be likely to lead to beliefs that our people would comply, the data again support the conclusion that crisis relocation looms as a program of rather high current credibility.

That so many people are expected to leave their areas of residence in a spontaneous response to a deepening international crisis is further evidence that the relocation response is seen as a credible one even in the absence of a national plan or national activation of such plans.

### C. Actionable Time

Two questions in the study bear directly on warning time itself as a facilitator or constraint, and thus shed light on the "Can it Work?" dimension of credibility.

One item pertains to the time people believe would elapse between when they concluded that war was imminent, and thus in the absence of a formally issued warning signal, and the possible onset of hostilities.

The second item probed whether our people thought that there would be enough time to relocate if such a program were in existence and put to use. Regarding warning clues of a strategic nature, that is the time duration over which actions might be taken in the absence of formal warning signals, strategic or tactical, the findings are as follows:

1. Some 46.5 percent of our people thought they would reach the conclusion that war was really coming not more than a few hours before an actual attack.
2. In fact, 19.6 percent believed that there would be no actionable warning time, 11.7 percent referred to 15-30 minutes of the "traditional" tactical warning time, and 15.2 percent were thinking in terms of a few hours at best.
3. Political (36.3 percent) or military (15.0 percent) or economic (8.3 percent) crises and their trajectories were cited as the main clues on the basis of which our people would conclude that war was about to come.
4. 16.3 percent mentioned specifically and spontaneously that they would leave their area of residence in this time period. In turn, 10.1 percent would evacuate in that they did not specify any particular location they had in mind, and 6.2 percent would relocate in that they had a specific place in mind.
5. Those who might not move out emphasized seeking a shelter (20.9 percent), adapting their home (6.4 percent) or acquiring various supplies to stock up (18.4 percent).
6. 19.6 percent stated that they would do nothing at all, and 9.9 percent simply told us that they would "pray."

The data, of course, show that many people remain convinced that there would be only tactical warning time, and that they are, therefore,

thinking in terms of a sudden, or essentially "out-of-the-blue" war. The results also show that almost 20 percent of our people might do nothing at all even though they concluded that war was coming although their actions, in a real crisis situation, would be certainly affected by the actions of others as well as by media reports and by whatever communications would be issued by Government. When it comes to crisis relocation, the key results are further strengthened:

1. 60.8 percent believe that there would probably or definitely not be enough time to relocate.
2. Only 1.7 percent are convinced that there would be "definitely" enough time to relocate, and another 16.7 percent feel that there might "probably" be enough time.

The findings suggest that, insofar as there may be serious questions regarding credibility of various programs, and more specifically of crisis relocation, the issues are likely to center around actionable time.

Thus the "Can it be done?" issue tends to be answered by the public: "probably not in the time likely to be available."

#### D. Helping Behavior Expectations

Some preparedness system must rely on mutual helpfulness more directly and more intensively than other programs. Among possible in-place systems of protection, home basement sharing would obviously depend on the form of altruism which would lead people to permit others, even complete strangers, to stay in their homes.

Some modalities of crisis relocation, too, might be predicated on more private housing rather than on congregate care.

In any event, of course, home basement sharing could make a contribution to both in-place and relocation programs, and private home, and even shelter, sharing in host areas would clearly facilitate the difficult problems of congregate care facilities.

If we, once again, confine our discussion of these issues as they bear on the individual's own likely response to the presentation of the key data on acceptance, the perceptions regarding cooperativeness of others are a salient component index of effectiveness credibility (and the workability of various programs -- as seen, at least, from the vantage point of the respondents).

1. 42.9 percent of the respondents thought that the relevant subset of homeowners would allow their basement to be shared with others. An overall basement sharing likelihood index is .530 when it comes to perceptions of helpfulness of others.
2. In the nation as a whole, 75.3 percent of the respondents, with a helpfulness index of .732, expect that the nation's communities would help relocatees, and 81.9 percent, with an index of .771, are convinced that in their own community "helpful" or "very helpful" actions would meet potential relocatees.
3. 79.1 percent are convinced that the nation's farmers and other rural residents in small hamlets would be either "very helpful" or "helpful" (with an index of .740) if a crisis relocation program were directed exclusively, or predominantly, toward evacuation into rural America's safer areas.
4. 65.9 percent, with an index of .668, believe, furthermore, that the nation's host communities would provide private accommodations for relocatees, and an index of .657 with a "likely" or "very likely" response characterizing 64.0 percent reveals a conviction that such private hosting would take care of relocatees in the respondent's own community.

Thus the argument that such programs might have low credibility because people would be fairly sure that they may not get the needed help or cooperation from other Americans is not very tenable in the light of such results. Rather the opposite is true, and quite predominantly so. People are pretty sure that homeowners might share basements even with strangers, that host communities would cooperate and that, in fact, relocatees would be cared for in private residences, and that the nation's rural areas would respond with similarly high levels of helpfulness if a program channeled the flow of relocatees into farm areas and small hamlets of the nation.

#### E. Resources

Another series of effectiveness credibility issues arises out of possible arguments that there would be such runs on groceries, or banks, or gasoline stations in face of a crisis relocation that the program might break down out of the resulting near-panic.

Entirely apart from the totally convincing documentation about the absence of panics, or at least of any large-scale problems of this type, in face of other disasters, we sought to probe into the matter of standby resources to establish how credible such arguments might sound to our people at this time.

As far as transportation problems connected with possible crisis relocation efforts are concerned, the main story is simply as follows:

1. Some 88 percent reported having at least one car, and 47.3 percent had two or more automobiles.
2. Only 4.1 percent said that the gasoline tank in the principal family/household car was empty or nearly empty, while 23.4 percent mentioned a full tank. For the most part, there was a pattern of the gasoline tank being between one-half and three-quarters full at least in the main family car.
3. On the average, these respondents said that they could drive about 162 miles without refueling were they to leave "right away."
4. Of the 12 or so percent of people without access to their own automobile, 69.5 percent were sure that their relatives, friends or neighbors would take them, and their families, along while 30.5 percent felt that they would have to rely on public means of transportation.

As for food supplies:

1. Only 9.4 percent believed that they did not have enough on hand to last for 3 days or more.
2. On the average, people expect that they could manage for 13.5 days without having to do any shopping for foodstuffs.
3. But many respondents, 72.7 percent, would still want to buy some additional specific items or classes of items. Most referred to canned goods or dried goods of various kinds.

Thus some "runs" on grocery stores could be certainly anticipated, but in view of the distribution of supplies on hand, appropriate information messages in the crisis context itself could fairly easily alleviate such pressures as might result.

As for drugs and medicines, we find the following:

1. 31.7 percent of the respondents reported that someone in their household, or themselves, were in regular need of some medication.
2. But without further acquisition of drugs or medicines, these people reported that they could manage for about 30 days.
3. Only 2.8 percent of those in need of regular medications didn't have enough on hand to last for 3 days or more.

The money situation, too, is not exceptionally problematic.

1. 71.3 percent would have enough money "easily available" to handle a 2 week stay if they did not have to pay for their accommodations.
2. Since we did not ask how much money people had actually around the house, this may well mean that many of them had to go to get cash from a bank or a such like financial institution.
3. 24.3 percent, however, would be unable to last for a 2 week period on the money which they said might be "easily available" to them.

More than food or drugs, money presents some problems but there seems to be nothing that prudent crisis relocation planning along with appropriate legal facilitation could not handle.

Among the items people might take along if they were to evacuate, clothing items (72.6 percent), bedding and night clothing (36.9 percent), selected "family" valuables and mementoes (19.1 percent), portable TV or transistor radios (11.0 percent), camping equipment (10.3 percent) were most often cited.

If many people said that they would like to buy some additional foodstuffs, only 8.5 percent, however, thought that they would have to go out and buy these other items which they claim to expect to take along.

Now 50.7 percent of the respondents had pets around the house with dogs dominating the scene indeed. Of these residents, 76.7 percent would definitely plan to relocate with their pets, and an additional 12.9 percent said that taking the pets along or not depended a lot on the particular circumstances.

Still other resources seem available.

1. 58.1 percent had relatives or friends within a 100 mile radius and not in a city with whom they believe they could stay.
2. 54.6 percent had such relatives or friends within a 200 mile radius.
3. Some 33.0 percent had camping equipment, and 20.1 percent specifically mentioned a camper or some appropriate surrogate.
4. 20.6 percent had an accustomed campsite or place within a 100 mile radius, and 19.4 percent within 200 miles.
5. Cottages or summer homes of one kind or another were reported by 6.2 percent within 100 miles, and 4.7 percent within 200 miles, while boats were available to 12.5 percent of these respondents, the latter, of course, of potential survival value only along the nation's coastlines.

The findings then show considerable resources around the nation. They also suggest that crisis relocation plans which would put the standby capabilities to good use, and this, indeed, includes the all-important plans for information dissemination, could alleviate many serious difficulties.

The overall pattern of national resources, and, in fact, of resourcefulness is further underscored by the finding that 72.2 percent of these respondents stated that they could "probably" or "definitely" manage living strictly off the land "for a couple of weeks" if this were necessary, while 15.6 percent would "probably" or "definitely" find such a situation unmanageable and others, 8.3 percent, were unsure about their "off-the-land" survivability.

## V. USE CREDIBILITY

The question of program utilizability arises, above all, in the context of crisis relocation. It is a less salient issue with in-place systems, because all the central parameters of utilizability are predicated on availability of some preparedness system and its activation in a tactical or near-tactical warning environment.

By contrast, crisis relocation efforts would have to be activated in an environment in which war may seem extremely probable, if not almost certain, but it has not happened yet nor is it happening yet, so that there is time not only to prepare for its impact but also to defuse the crisis and prevent it from escalating into an actual conflagration.

Thus the crisis relocation program raises the additional, and difficult, question as to whether the plans, no matter how well developed, would ever be put to use.

The key issue is simple enough: would the President be likely to activate crisis relocation?

The data we have focus on this problem quite directly.

We asked, indeed, whether our respondents could conceive of any circumstances under which the President of the United States might ask people in some parts of the nation to evacuate.

The answer, too, is rather clear:

1. 66.7 percent of the respondents thought that, indeed, there might exist conditions under which such Presidential action was plausible, if not probable.
2. 17.0 percent were rather sure that the President would not order relocation under any circumstances whatever. Others (9.4 percent) were unsure, and 6.9 Americans were unable or unwilling to answer the question at all.

Thus, in sum, about two-thirds of our people would not accept the argument that crisis relocation planning is not credible because the President would never activate such plans anyway. Some 17 percent are already convinced, however,

that this is so although we cannot quite gauge the effect on the use credibility for these respondents of actual programs or of actual statements by the President or the Secretary of Defense that, indeed, relocation may well be called for and actually carried out. We can only be sure that the percentage of those who view such an action as non-credible at this time would tend to decline rather than increase so that the 17 percent represent perspective borne off the current state of crisis relocation thinking and planning, and the limited knowledge our people have about it.

## VI. SPIN-OFF CREDIBILITY

The credibility of some efforts might be enhanced or impeded by beliefs that the particular programs might contribute to, or detract from, other preparedness capabilities that are needed.

We will not discuss this issue in this paper because we have no direct indices which bear upon it. Rather, further analysis will permit us to see whether there are differences in the other credibility indices as a function of estimated likelihood of other nuclear hazards. Similarly, we will be able to consider the effects of prior disaster experiences upon credibility of both the key in-place and relocation options.

All of these are, at best, proxy measures. But the economy of the 1978 survey disallowed for detailed probing about the extent to which particular civil defense programmatic thrusts may have payoffs, negative or positive, in the nation's, the community's or the household's capability to face disasters other than those of nuclear war.

To repeat, further analysis of the data will cast some additional light on this issue, if somewhat indirectly so.

## VII. ATTITUDINAL ACCEPTANCE

As we consider the findings in terms of acceptance at the level of public sentiments and attitudes, we must briefly touch upon several components of this national feeling. One, there is the issue of general acceptance of civil defense. Second, there is a question of costs. Third, there is a question of dispositions toward in-place fallout protection. Fourth, there is an issue of home basement use and home basement sharing. Fifth, there is a question of blast protection. Sixth, there is a question of attitudes toward relocation planning. Finally, there is an issue regarding acceptability of educational programs bearing on disaster preparedness, including the hazard of nuclear war, in the nation's public school system.

The 1978 survey included probes relevant for each one of these complex dimensions of attitudinal acceptance. Let us summarize the main results.

### A. Attitudes Toward Civil Defense

We did not measure whether people, in the most general way, approved or disapproved of civil defense. But we have a measure which may well be stronger.

On the one hand, we asked about the desirability of a situation in which America would do away with any and all civil defense programs. This is, indeed, a unilateral "no civil defense" case.

Second, we asked about the desirability, as an aspect of various possible arms control and disarmament agreements, of reaching an agreement with the Soviets to do away with the respective civil defense programs of both nations.

The conclusions are straightforward:

1. On a scale which could run from (-3) to (+3), unilateral discontinuation of civil defense has a negative value of -- 1.92 with 78.3 percent of 1978 Americans falling into the response category which would oppose doing away with civil defense in this manner.

2. Except for a negative feeling about the possibility of agreements which would make the United Nations the dominant nuclear superpower to insure nuclear stability, the only program which yields a negative index along the arms control spectrum has to do with discontinuation of civil defense. Such agreements with the Soviets, and thus bilateral dismantling of civil defense, has a value of -1.55, with 65.8 percent of the respondents being apposed.
3. Only 12.7 percent would look favorably at such a Soviet-American agreement, and 9.8 percent might find a unilateral discontinuation of civil defense efforts acceptable.

#### B. Civil Defense Costs

In 1972, we found that the average estimated expenditure was higher by a factor of 7 than the then-current spending on civil defense. We also found that the desired level of funding were 14 times higher than the then prevailing levels, and thus twice as high as the expenditures which people believed the nation was incurring at the time.

The pattern is similar in 1978. If we assume roughly \$100 million of actual expenditures, just to create a crude benchmark, people overestimate the nation's spending by a factor of 10, and the desired level of spending -- at an average of \$1.6 billion per year -- amounts to a 15 to 16 fold increase over the actual pattern of spending.

To be sure that these data are somewhat interpretable in the context of other spending programs, we asked also about foreign aid programs and about anti-poverty efforts. Here, we find that people believe that the nation has been spending about \$3 billion per year, but should be spending only about \$700 million on foreign aid. Regarding anti-poverty efforts, the estimated current expenditures averaged \$1.9 billion, and desired expenditures were at the level of about \$1.75 billion, thus just about the same.

The results show that there is clear differentiation among various patterns of spending. On civil defense, the people tell us that not enough is being spent and substantially more would be warranted. But even what they think is being spent exceeds, on the average, the actual budgets 10 times.

In terms of data medians, rather than averages, the current spending level was set at about \$120 million and thus was more realistic than the average which was, of course, more inflated by extreme values of the distribution of responses.

On anti-poverty programs, we are seen spending less than we do, but the actual level of expenditures is believed to be just about right.

On foreign aid, people would like to see dramatic cuts in those expenditures which they believe the nation to be incurring already.

One more point regarding civil defense: if the median current expenditures are seen to cover around \$120 million, the desired expenditures, using the median again, come up to \$242 million and this, it seems, is quite in keeping with the requirements for a modest program of the D-prime variety.

This means that an actual increase in national budgets for civil defense to about the quarter billion level is basically non-controversial in the larger body politic regardless of what minority voices may be heard and what might be the interpretive rhetoric of the media.

#### C. Public Fallout Shelters

The findings can be easily summarized:

1. 82.4 percent were in favor or strongly in favor of public fallout shelters, with 11.6 percent in the corresponding opposition brackets. A favorableness index amounts to .756. The result parallels the 1972 findings and shows, if anything, increased receptivity.
2. A program to mark and stock public buildings has a desirability of +1.94, with only 7.6 percent of the respondents in the negative response categories.
3. A program to include public fallout shelter in the construction of buildings, especially those of non-profit organizations such as schools or hospitals, yields an index of +1.81 with unfavorable responses characterizing 8.6 percent.
4. The data on these particular programmatic thrusts of civil defense once again are very much like the results of the 1972 national survey.

Coupled with the findings regarding survivability expectations if our people were in fallout shelters, the results clearly show strong, and actually quite overwhelming, levels of support for efforts to protect the nation against the secondary effects of nuclear weapons.

#### D. Home Basements

The problem of home basements has, of course, two dimensions. One has to do with the use of one's own basement. The other one pertains to basement sharing. That the issue is confounded, in any event, by having or not having appropriate information whether one's basement would provide even a modicum of protection, or how that protection might be enhanced by last minute measures, goes without saying.

We shall ignore, at this moment, these additional problems although more can be said about them upon further analysis.

First, then, about the use of home basements:

1. 51.3 percent reported having heard about the fact that home basements might provide protection against fallout and
2. 27.3 percent reported having heard how much protection there might be.
3. Among those with basements, 37.1 percent have thought of using their basement as shelter, and 13.2 percent actually claim to have obtained information about the protection factor associated with their basement or the best part of their basement.
4. 63.4 percent were favorably disposed to the idea of conducting home basement surveys to determine whether they can help in protecting people, and the desirability index, while not exceptionally high, has a positive value of +0.99, slightly lower than the +1.15 value of 1972.

When it comes to home basement sharing, the prevailing attitudes are strongly supportive. Indeed, since we mentioned perceptions of other home owners as an issue in credibility in the effectiveness sense, it is important to note that the more generic attitudes of the respondents themselves are more favorable than are their imputations of likely actions by others.

1. 64.4 percent find home basement sharing an acceptable alternative, with an index value of .602.
2. 67.0 percent actually like the idea of local civil defense people assigning potential shelterees to available homes, and the general index has a value of .690.
3. These are, of course, attitudes of both those who have basements and those who do not, and thus reflect a general pattern of acceptance of programs which may incorporate basement sharing as an important subsystem of the larger preparedness posture.

#### E. Blast Shelters

In terms of effectiveness credibility, we have already established that blast shelters, more than any other approach to the problem, are believed to enhance survivability the most. We also said, of course, that our people might well underestimate the effectiveness of blast shelters when compared with computerized outputs of various likely attack scenarios.

Be it as it may, the main findings of the survey as they pertain to acceptability of blast shelter programs are of the following kind:

1. 50.3 percent of the respondents thought that blast, rather than only fallout, shelters would be preferable in the area in which they reside.
2. 12.4 percent were uncertain as to the kind of shelter that might be required, while 25.6 percent were convinced that fallout shelters would be sufficient.
3. The desirability of a blast shelter construction program was +1.39 and 70.3 percent fell into the positive response categories while 14.8 percent were leaning toward the more negative end of the spectrum.

Thus even a very strong civil defense program seems quite acceptable, and the data on average desirable cost of civil defense, though not on the median desired cost, would indicate that such an effort might find a fair amount of support even were it to cost \$1.1 billion or thereabouts per annum (!!).

But, of course, the controversiality of such a national commitment and the dialogue which would ensue could alter some of the acceptance outcomes to some extent. Even so, the results are a dramatic demonstration of attitudinal acceptance of whatever measure might seem to do the job best, and the job is one of increasing the nation's survivability to deal with the threat of nuclear conflict.

#### F. Relocation Plans

Three issues need to be touched upon. One has to do with beliefs that the nation already has plans to evacuate its vulnerable areas. The second has to do with the feelings about the need for relocation planning. The third has to do with the way in which the plans might handle the problem of critical or essential workers. The ambient issue, the foremost one, concerns the desirability of considering strategic evacuation in the first place.

So the last issue first:

1. 65.1 percent of our people are supportive of a program to evacuate "cities and places near military installations," with an overall index of +1.15 on the desirability scale.
2. 16.4 percent have an unfavorable view on such programs.
3. There is, however, a modest increase in favorable responses since 1972.

As for information level regarding relocation plans, the results are simple:

1. Most people do not know whether either the United States or the Soviet Union have such plans.
2. 26.9 percent of the 1978 sample of Americans are convinced that America has such plans in existence (26.5 percent believe that about the Soviets).
3. Whether this is simply misinformation or whether people recall the early 1950s strategic evacuation plans and consider them viable and activatable, our study simply does not show and we have no data on the basis of which a conclusion on this point could be drawn. The only proxy is the fact that self-evaluated knowledge about the nation's civil defense is relatively low, and that it is lower than the corresponding indices for information regarding the world situation as a whole, the nation's economy, the energy problem, information about national defense or the Soviet Union.  
Thus we would be inclined to attribute the response more to misinformation, or absence of information, rather than to recall of strategic evacuation plans of the 1950s. But further analysis can straighten some aspects of this problem out.

As far as critical workers are concerned, the programmatic preference expressions present something of a problem in terms of acceptance. None of the alternatives we posed, and they seem to be the real ones, is without serious dangers and, more specifically, without serious dangers in regard to the nation's acceptance.

How critical workers themselves feel will be, of course, ascertained in further analysis. Perhaps, the difficulty might be resolved.

These, then are the main results:

1. Evacuating critical workers families only, and providing the stay-put essential workers with adequate protection against both blast and fallout is the most favored program.

54.0 percent support this approach as the best or next best alternative, while 23.4 percent consider it the worst or the next worst option.

2. There is more of a consensus on the negative end of the spectrum: programs to urge workers and their families to stay while providing even blast protection for them, as well as a program to have workers and their families staying in the otherwise evacuated areas and then trying to get them out at the last moment are basically unacceptable.
3. If we only consider the program which has the highest acceptance as the best one, although many people are also opposed to it (by labeling it the "worst" option) it is, indeed, the idea of having both essential workers and their families relocate, and having the workers commute to provide the needed services in the evacuated areas.
4. We know already that our people expect about 50 percent of the essential workers to comply with such a requirement (that is, to relocate and keep commuting) and an analysis in terms of views of potential essential workers themselves may further refine that finding.

Now our people have told us that spontaneous evacuation might reach significant proportions and that almost 70 percent of the people in their area would respond to a Presidential relocation directive. At the same time, they told us that they were pretty sure that there just not might be enough time in which to evacuate.

What then of attitudes toward crisis relocation planning?

The results are clear:

1. 78.2 percent believe that we ought to "probably" or "definitely" have relocation plans -- with another 10.0 percent in the "50-50 likelihood" category.
2. Thus the overall index of favorableness toward crisis relocation planning has a value of .794.

The key to the story is, of course, that people are telling us that such plans may not work for various reasons as well as might be hoped for or because there simply would not be enough time in which to act, or even that there may

not be the Presidential will to activate the plans. But, the nation ought to do such planning, even though all the limitations mentioned -- and perhaps others not explicit here -- might be operative.

#### G. Education in Public Schools

Should there be educational efforts, as part of the normal curricula of the public school system, to enlighten our young people regarding disaster preparedness, including the minimum capability to orient to coping with a nuclear war? The answer is clear:

1. 93.9 percent favor such programs in the school systems, and 3.2 percent oppose.
2. The favorableness index has a value of .891.

Thus school programs in emergency preparedness would seem so welcome that it is difficult to imagine that more of them have not been installed or that more of them ought not to have entered the curricula already. There is certainly no question about acceptance though we have no direct evidence to show how people might respond if such program augmentations in public school would entail additional costs and if these costs would have to be defrayed by further, no matter how modest, taxation.

## VIII. PROMISSORY ACCEPTANCE

We defined the dimension of "promissory acceptance" as having to do with intentions and plans of the respondents, and their general willingness, as stated now, to do one thing or another.

For the purposes of this paper, we limit ourselves to four axes of the "promissory acceptance" domain.

One has to do with willingness to share a home basement. The second has to do with willingness to relocate, if needed. The third concerns the willingness to help relocatees should the individual be in an area which were a hosting, rather than evacuation, part of the nation. The fourth has to do with willingness to acquire disaster preparedness information by attendance of training and educational programs.

### A. Home Basement Use and Sharing

We already know that some 37 percent of the Americans with basements might be inclined to use them as "shelter" when needed. We know also that Americans believe that many home owners would be willing to have others use their basements. We know, finally, that many Americans, indeed, are convinced that an effort to plan the use of home basements not only for the residents of the houses but for others, including strangers, is quite acceptable. Now the promissory willingness of the residents with basements leads to simple conclusions. Let it be said at the outset that 51.5 percent of the respondents had homes with basements, and that the percentage was 49.4 percent in the 1972 sample.

1. 72.5 percent were definitely or probably willing to share their basements, yielding an aggregate index of sharing likelihood of .695.
2. 72.6 percent were definitely or probably willing to have others assigned to their own homes, with an overall index of .684.
3. 49.6 percent were inclined to allow their home to be marked with an appropriate civil defense sign as a shelter for others, the index value being .535.

Thus, in all, people with basements are either more likely, or as likely, to accept home basement sharing in this promissory manner as all respondents believe the country as a whole to be.

In other words, the acceptance pattern of home basement sharing does not somehow characterize the people without basements differently from those with basements, and for those who do have basements, the willingness to share has the promissory character which we explore in this segment of the paper.

The acceptance level is high.

Among those who said that they might probably or definitely not take in others to share their basement, space limitations, health concerns and age-related factors were by far dominant over non-acceptance of the program on any other grounds.

#### B. Relocation

We have learned that Americans anticipate that some 48 percent might evacuate spontaneously in the midst of a deepening international crisis, while an overall directed relocation percentage might amount to, in the way of such expectations, about 70 percent.

We know that general attitudes toward strategic evacuation are mainly positive, and that the acceptance of relocation planning is high.

The findings are about as follows:

1. The spontaneous evacuation index has a value of .548, with 43.3 percent saying that they would probably or definitely tend to evacuate.
2. If we discount all potentially maladaptive evacuations in terms of the sample as a whole, we end up with about 39.3 percent of adaptive spontaneous evacuations.
3. In response to Soviet evacuation per se, however, the outflow of our people would be somewhat lower, the summary index is .442, with 27.8 percent "very likely" or "likely" to leave. This suggests that our people conceive of Soviet evacuation as possible without being a threat to the United States, and the other data suggest that this may well be related to expectations regarding a Soviet-Chinese confrontation.
4. 70.2 percent say that they would be likely or very likely to relocate upon a Presidential directive, while 12.4 percent would

be either very unlikely or unlikely to do so. Thus the relocation likelihood index has a value of .717.

5. 61.5 percent of the potential relocatees claim that they would actually prefer to follow instructions as to where to go and what to do; 27.5 percent would prefer to evacuate to "a place of their choice."
6. Ideological reasons (36.3 percent), desires to protect one's property and territory (23.0 percent) were the key responses to the question why people might not be willing to relocate even if the President were to urge them to do so.

The possible magnitudes of spontaneous evacuation must lead us to conclude that there could be so much flow of people as to amount to almost the levels of a directed relocation. Indeed, spontaneous evacuation of the proportions implied in the findings would itself require planning and direction.

Furthermore, other problems arise. We have mentioned that about 78 percent of our people live in TR-82 higher risk areas. The spontaneous relocation likelihood is .556 in such areas, while it is as high as .522 in the safer areas of the nation.

The key point, of course, is of the following kind: a good deal of spontaneous evacuation could occur from relatively safe areas, and perhaps to other safe regions or even to unsafe parts of the country. Such evacuation, too, would be maladaptive from the vantage point of national planning, and only adequate dissemination of public information about risk and safer areas might forestall it.

This raises, of course, difficult questions as to whether spontaneous evacuation should ever be encouraged or whether it might be actively discouraged by Government, and what the effects of either such policy, or some balanced mix, might be on both actual spontaneous movement and on compliance with crisis relocation once it would be ordered by the President.

However, it seems inescapable that the plausible magnitudes of so-called spontaneous evacuation may force the hand of the planners to consider ways of channeling such flows of people even in an environment in which the President will not have acted or will not have acted as yet.

#### C. Willingness To Help

We have already briefly outlined the findings which show that our people expect host communities to help potential relocatees, and that they expect that private accommodations would be made available.

A similar pattern of responses holds when people were asked about helpfulness of their own communities, and of rural America.

How about the promissory helpfulness of the respondents themselves?

1. 72.6 percent said that they would be definitely or probably willing to provide relocatee accommodations if their own area were not being evacuated.
2. Only 9.2 percent would be probably or definitely unlikely to do so, but mostly due to space limitations. Ideological factors play a role among 3.5 percent of the sample, and thus some 39 percent of the 9 percent unlikely to accomodate possible relocatees in their own homes.
3. Of those with hosting willingness of 50-50 and more, 50.0 percent could accommodate one family, 31.0 percent would take in two families, 7.6 percent three families to five families, and 11.4 percent mentioned as many as six families or more.

Furthermore, 12.4 percent of the sample had themselves experienced previous evacuation which tended to involve a duration about some 12 days on the average, and about 9 miles in distance.

Finally, 11.4 percent provided temporary housing for evacuees under other emergency conditions, and most of the experiences, 69.8 percent of them, proved to be rather positive ones.

The findings, of course, imply high promissory acceptance to take in relocatees and, at the same time, many of them. The result is, if in part, validated by parallel willingness to share basements in the more in-place context.

The respondent willingness to help exceeds even the willingness, which is already high, attributed to the nation's communities or to one's own community.

#### D. Education and Volunteering

As a final perspective on promissory acceptance, we may consider the willingness to be trained or educated in regard to civil defense matters, and the willingness to volunteer.

We know already, of course, that there is high attitudinal acceptance of the inclusion of relevant subject matter in the curricula of the nation's public schools.

The following are the main findings as they bear on both educabilities and volunteering:

1. 59.5 percent of the respondents expressed their willingness to undergo appropriate training in disaster preparedness. With 19.3 percent unlikely or very unlikely to do so, the overall favorableness index is .650.
2. With an index of .637, 42.4 percent were saying that another member of the household would be definitely or probably willing to be trained, and 13.8 percent considered another member of the household either unlikely or definitely not willing to acquire disaster preparedness know-how. Not surprisingly, many people were unsure how other members of the household might feel and they said so or, for that matter, refrained from answering the question at all.
3. 61.7 percent of the respondents said that they would "definitely" or "probably" volunteer their time and effort for civil defense if it were needed. The same pattern of data was obtained both in the 1972 and 1968 national study.
4. Unlikely volunteering, however, is not motivated by opposition to civil defense as the key factor. In fact, only 16.4 percent of those who were unlikely to volunteer mentioned ideological reasons, while lack of time, age, and health were the dominant reasons for non-volunteering. Thus the result is clearly governed not by unwillingness but by inability among the 28.1 percent of the sample who were "probably" or "definitely" unlikely to volunteer if asked.
5. In all, then as many as about 60 percent of our people might volunteer some time and effort for civil defense if the essential conditions under which the survey was carried out were replicated in an operational program: face-to-face encounters and invitations to help along with flexibilities as to the days of the week and hours of the day which people could allocate to giving their voluntary help.
6. Similarly, the data on willingness to be trained or educated would be validated in actual national pattern of actions if maximum flexibility regarding days and hours for such training efforts were possible, and if Americans were asked individually and directly.
7. Hence, we conclude that generalized media-transmitted calls for

volunteers or for participation in training programs would not yield the kinds of percentages we find in terms of promissory acceptance simply because such appeals would differ from the direct, individualized and face-to-face encounter which the survey involved.

## IX. PARTICIPATORY ACCEPTANCE

There is simply nothing in the data which would suggest that our people are likely, in any significant numbers, to write letters to editors, to the Congress or the President demanding more in a way of civil defense. There is nothing in the data to suggest that there could be, at this time, any meaningful interest group mobilization of significant magnitudes to create a pressure group supportive of civil defense efforts.

The support levels, as we have documented again, are very high. The threat is real and of major magnitude, both in terms of objective attack pattern analyses and in terms of the public's perceptions. But it does not represent an imminent danger. Hence, the saliency of civil defense remains low and this is the kind of national opinion climate in which professional-technical efforts can thrive best in a low profile publicity environment. Yet, to say that actual public involvement in the way of participation is not properly represented by the data and that people wouldn't do what they say they would or wouldn't act the way they say they would act misses the point entirely.

Election polls reveal, except for the well explained and well documented failure of 1948, that people in the aggregate, do what they say they will do. National surveys of voting intentions have been about 2 percent of the mark ever since 1948 and not more than that. Every candidate for office by now recognizes the centrality of public opinion polls, and hardly anyone, except the likely loser until he or she is actually proclaimed the looser, argues about the value, and even the reliability, of the results. In fact, even the losers know better and they simply strike a winning public pose in the hope that it may affect the underlying sentiments of the public in their favor in the last ditch effort. In consumer research, by such massive organizations as the Consumer Union, we find that aggregate national purchases are about within 5 percent of the pattern predicted by data on buying plans and intentions. Some products suffer and others are more blessed. But the overall fabric of national spending is well predicted by such data.

Our studies did show that the marking and stocking program would not run into any difficulties and that it had overwhelming support throughout the nation. The actual surveying, marking and stocking program met with some 90 percent acceptance by the building owners, a pattern our results predicted.

Similarly, when DCPA launched its Home Basement Survey venture in cooperation with the Bureau of the Census, our data, acquired before the surveys were actually undertaken, predicted the overwhelming support for such an effort. If anything, the overall 80 percent return rate of the Bureau of the Census information cards exceeded, to a small degree, our survey-based forecasts.

When we speak of volunteers in terms of probable willingness to help civil defense, the actual data from the Colorado Springs feasibility studies of CPR once again validate the survey results. The percentages of people who actually volunteered their services on specified days and at specified times were very close to what our volunteering willingness measures indicated.

We mentioned some of these concrete examples precisely because someone might wish to argue that all is well as far as opinions and attitudes go, but that people would really not act the way they say would. This, to put it quite straight, is simply not the case.

Indeed, promissory acceptance as it manifests itself in expressions of willingness to do something can be "cashed in" by a program with strong assurance that the actual behavior of our people will, in fact, validate the survey findings.

Now, of course, we have some data on this dimension of participatory acceptance. This is, indeed, entirely apart from the fact that the promissory acceptance pattern could be converted into participation activities, and that our results will be validated in an actual national action within a negligible margin of error stemming from the endemic sampling problems themselves.

The participatory data we actually have included in the survey pertain to reports of experiences in disaster and emergency relevant training.

This is, in this regard, what we find:

1. Some 42.2 percent of the respondents claim to have had some first aid training.

2. About 13.7 percent report to have had general training bearing on disaster problems.
3. 13.0 percent, a surprisingly high percentage, mention some training in the kinds of things one ought to do in the event of a nuclear attack.
4. 6.3 percent mentioned radiological monitoring as a thing they have learned.
5. 4.6 percent referred to some program regarding shelter management.

Except for first aid training, in which the Red Cross was clearly the pivotal agency, all other such emergency related know-how seems to have been acquired mainly in the course of military service. Specific civil defense efforts, however, are cited next most frequently as the training ground but the military has, by far, been referred to more often on all items bearing on disaster preparedness.

We have no data to show how up-to-date the training might be or how up-to-date the knowledge base might be, or how accurate the knowledge itself, of whatever vintage, may be.

All we can say is, of course, that there exists a national resource of emergency preparedness capabilities of fair magnitude and that, at the same time, the data also further suggest a solid base on which to argue that even in participatory acceptance terms, civil defense is not in an intolerably bad shape.

## X. CONCLUSIONS

It would be altogether impossible to conclude, on the basis of the existing evidence and even in its comparability with previous national data, that crisis relocation efforts would either not be credible or not acceptable.

As far as the American people are concerned, civil defense measures are both highly credible and highly acceptable, and this includes, specifically, crisis relocation concepts. There is nothing in the data to make this interpretation significantly questionable. The evidence is as compelling as it is robust.

Since the results are so strong and so positive throughout, there is little reason to attempt to summarize them again. Rather, it makes some sense to highlight the key problem areas which the data either directly reveal or make quite suggestive. There are four such problems. Let us, in brief, restate each one of them.

One, the credibility of CRP may well be negatively affected by beliefs that there would not be enough time to relocate. This pattern of thought quite likely dampens the survivability estimates associated with a relocated posture although only further analysis will show whether this is, in fact, the central factor.

The solution, if there is one, may lie in better public enlightenment as to the most probable war scenarios, and in better information about the capabilities of a strategic, rather than tactical, warning systems of clues, if not of actual authoritative (government-issued) warnings.

Two, spontaneous evacuation could reach such proportions as to become a serious impediment to any subsequent effort at a more planned and directed relocation process.

The main solution may rest with the attention of relocation planners to the ways in which spontaneous evacuation itself could be channeled, monitored, and partially, if not fully, directed. This raises incredibly difficult policy questions simply because such management of spontaneous outflows of our people would have to take place in the absence of a formal Presidential decision to relocate.

Three, a great deal of spontaneous evacuation might prove to be maladaptive from the vantage point of a crisis relocation program. Many people from relatively safe areas might leave, and it is not obvious whether they would end up in other safe areas or in higher risk areas, but it would definitely mean that some of the host area resources would be diminished, and it would also mean that, in other safer areas, there might be a relocatee burden well beyond the possible evacuees from high risk parts of the country.

Also, quite a few people from high risk areas might simply end up in other high risk locations. This, too, is maladaptive from the CRP perspective and poses a further burden on system planners and on the eventual operating system itself.

The solution, of course, also has to do with the public information and education. But it means that some forms of public information would have to be authoritatively delivered either under normalcy conditions or in the early phases of a crisis rather than only upon an actual, or immediately impending, decision to relocate. Thus there are important political decisions within political decisions, and none can be lightly disregarded lest we wish to run the risk of having good paper plans but an operating system which can work at only a modest level of its potential effectiveness.

Four, there might indeed be some difficulties in runs on stores. Even though people, for the most part, have enough foodstuffs to manage, significant numbers of purchases of canned and dried goods are anticipatable. Furthermore, while most people tend to have enough gasoline in their cars to carry them for some 150 miles or thereabouts, some gasoline will be used up in efforts to purchase additional food, and there will clearly exist a strong temptation to refuel before relocating especially if people were out shopping anyway. Thus the data do not indicate any necessary run on gasoline stations, but combined with the other indicators, it would be quite safe to expect some runs on service stations as well.

We do not know whether "available money" had to do with cash around the house or with money easily accessible in a financial establishment. However, we must suspect that most of the "available money" might not be in the handy cash form. Thus a strain on banks, too, can be expected, although we cannot evaluate its more specific magnitudes.

Apart from the few key problems which we have mentioned here, there appear to be no unsurmountable difficulties of the credibility or acceptance kind

in the way of prudent crisis relocation planning or, for that matter, in the way of an effective implementation of such plans should the nation ever find itself in a position to take an unprecedented measure of this kind.

But the maintenance, and strengthening, of the prospects for peace is, indeed, preferable over all emergency preparedness systems even though America needs them and wants them should the brittle fabric of nonwar fail to last, that is, should deterrence fail.

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The study defines credibility problems along four dimensions: credibility of threat, credibility of response (response effectiveness), credibility that the response (CRP) would be actually put to use (use credibility), and spin-off credibility (the potential payoff of such programs as CRP for other emergencies or activities).

We find that threat credibility is fairly high in that many Americans think that a nuclear war might be likely in some future, that their area would be a target or exposed to significant fallout, and that other nuclear threats (nuclear power plant accident, terrorist takeover of a facility, terrorist acquisition of a nuclear device) are also not negligible.

We find that civil defense programs are seen as rather effective in that survivability estimates are just about twice as high for a protected population than they are essentially under the "existing system" (if war were to occur "next week"). In this regard, blast shelters are seen to perform best, fallout shelters next best, and evacuation alternatives well enough, but worse than either blast or fallout facilities.

The study shows high expectations to comply with a Presidentially ordered, or urged, evacuation, and very high expectations of helpfulness on the part of the possible host areas of the nation.

The key problem, in turn, has to do with time availability: many people feel that there would not be enough time to be warned about an impending threat, and not enough time to evacuate.

By far most Americans (use credibility) believe that there might indeed exist circumstances under which the President would order evacuation of risk areas. In the acceptance dimension, we find strong supportive attitudes toward civil defense measures as we did in previous national studies (1972, 1968, 1966, 1964, 1963). We find strong support for relocation planning. Beyond this attitudinal acceptance dimension, the study points to positive results along the promissory acceptance axis.

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